STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

The Citizens Utility Board and the Environmental Law & Policy Center Petition to Initiate Rulemaking With Notice and Comment for Approval of Certain Amendments to Illinois Administrative Code Parts 466 & 467 Concerning Interconnection Standards for Distributed Generation.	Docket No. 14-0135

JOINT VERIFIED REPLY COMMENTS OF THE CITIZENS UTILITY BOARD, ENVIRONMENTAL LAW AND POLICY CENTER AND IINTERSTATE RENEWABLE ENERGY COUNCIL, INC.

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Introduction

On August 22, 2014, the Citizens Utility Board ("CUB"), Environmental Law & Policy Center ("ELPC") and the Interstate Renewable Energy Council, Inc. ("IREC")[1] (together, "the Joint Responders") filed their Joint Initial Verified Comments ("Joint Initial Comments") which explained the background and history of interconnection standards in Illinois and new best practices that have been adopted at the Federal Energy Regulatory Commission ("FERC") and in several states to better accommodate higher levels of distributed generation ("DG"), including FERC's November 2013 revisions to its Small Generator Interconnection Procedures ("SGIP").[2] The current Illinois rules are modeled on a previous version of the FERC SGIP and the same inefficiencies and market barriers corrected by FERC in its recent rulemaking will therefore likely also occur in Illinois as the solar photovoltaic ("PV") market expands, unless the Commission acts now to update the Illinois rules.

On September 12, 2014, Illinois Commerce Commission Staff ("Staff"), the Commonwealth Edison Company ("ComEd") and the Ameren Illinois Company ("Ameren") filed Initial Verified Comments.[3] These comments demonstrate agreement with most of the proposed revisions to Parts 466 and 467, which are based on lengthy and rigorous stakeholder workshops, technical conferences, and rulemaking proceedings at FERC and in other states. Many of the nation's largest electric utilities, industry associations, environmental groups, and government agencies participated in the technical conferences and rulemaking processes at

[1] Collectively, the "Joint Responders" for the purpose of this pleading.
[2] *See* Small Generator Interconnection Agreements and Procedures, 78 Fed. Reg. 73,240 (Dec. 5, 2013), 145 FERC ¶ 61,159, Order No. 792, ("FERC Order 792").
[3] Although each filing party titled their reply comments slightly differently, all will be referred to as Verified Initial Comments hereinafter.

FERC that form the backbone for the revisions proposed here.[4] Technical experts from the National Renewable Energy Laboratory ("NREL") and Sandia National Laboratories ("Sandia") participated and filed comments at FERC.[5] Other state regulators such as the California Public Utilities Commission as well as various independent system operators, including MISO, PJM, ISO New England, the NYISO also participated in updating FERC's SGIP. The goal of these proceedings was to maintain the safety and reliability of the electricity grid while making improvements to streamline the interconnection process without sacrificing safety or reliability. Based upon these discussions, CUB, ELPC and IREC are confident that each of these revisions will result in improvement to the Illinois interconnection process without any compromise to safety or reliability.

Many of the revisions proposed here were developed together as part of a larger "package" of reforms at FERC or through another state rulemaking process. It is important not

[4] Appendix A to FERC Order 792 lists the following entities that participated and filed comments in the FERC rulemaking process:
American Wind Energy Association (AWEA), Bonneville Power Administration, California Independent System Operator (CAISO), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE), Pacific Gas and Electric Company (PGE), ClearEdge Power (CEP), Clean Coalition, ComRent International, California Public Utilities Commission (CPUC), Community Renewable Energy Association (CREA), Office of the People's Counsel for the District of Columbia (DCOPC), Duke Energy Corporation, Duquesne Light, Electricity Consumers Resource Council (ELCON), American Chemistry Council, American Forest & Paper Association, American Iron and Steel Institute, CHP Association and Council of Industrial Boiler Owners, Electricity Storage Association (ESA), Fuel Cell & Hydrogen Energy Association (FCHEA), Industrial Energy Consumers of America (IECA), Interstate Renewable Energy Council (IREC), ISO/RTO Council (IRC), ISO New England (ISO-NE), International Transmission Company (ITC), Landfill Energy Systems (LES), Midcontinent Independent System Operator (MISO), National Association of Regulatory Utility Commissioners (NARUC), National Rural Electric Cooperative Association (NRECA), Edison Electric Institute (EEI) and American Public Power Association (APPA), National Renewable Energy Laboratory (NREL), NRG Companies (NRG), New York Independent System Operator and New York Transmission Owners (NYISO & NYTO), Pepco Holdings Inc. (PEPCO), Atlantic City Electric Company, Delmarva Power & Light Company, Potomac Electric Power Company, PJM Interconnection, LLC (PJM), Center for Rural Affairs, Climate + Energy Project, Conservation Law Foundation, Energy Future Coalition, Environmental Defense Fund, Environmental Law & Policy Center, Environment Northeast, Fresh Energy, Great Plains Institute, National Audubon Society, Natural Resources Defense Council, Northwest Energy Coalition, Pace Energy and Climate Center, Piedmont Environmental Council, Sierra Club, Southern Alliance for Clean Energy, Southern Environmental Law Center, Sustainable FERC Project, Utah Clean Energy, Western Grid Group, Western Resource Advocates, The Wilderness Society, Wind on the Wires, Sandia National Laboratories, Solar Energy Industries Association (SEIA), Union of Concerned Scientists (UCS), Vote Solar Initiative (VSI).
[5] Comments of Sandia National Laboratories under FERC RM13-2, filed June 3, 2013; Comments of the National Renewable Energy Laboratories under FERC RM13-2, filed June 3, 2013.

to "pick-and-choose" some revisions to implement and some to ignore. This is particularly true when it comes to the "100% of minimum load screen" that is proposed to supplement the "15% of peak load" screen as part of the expanded supplemental review process. Attachment A, Proposed 83 Ill. Admin. Code § 466.110(f)(4)(A). As noted by FERC in Order 792 when adopting a similar proposal, "the three screens in the supplemental review are designed to strike a balance between handling the increased volume of interconnection requests and penetrations of small generators and maintaining the safety and reliability of the electric systems." FERC Order 792 at ¶ 141. Adopting one or more of these screens without the other(s) could disrupt this balance and result in an interconnection review process that no longer promotes maximum efficiency while also maintaining safety and reliability.

Attachment A to this Response is an updated Proposed Part 466 and Part 467. These changes represent CUB, ELPC and IREC's attempts to respond to the Verified Initial Comments of ComEd, Ameren and Staff. All citations herein to 83 Ill. Admin. Code § 466 refer to the section numbers reflected in Attachment A unless expressly noted. No changes were made to the Joint Responder's proposed Part 467 filed on August 8, 2014. To aid the Commission's review of the arguments in support of these changes, these reply comments are organized by section number as they appear in the rule. Along with their Verified Initial Comments, ICC Staff attached their own revised redline of proposed Parts 466 and 467 filed with CUB and ELPC's Petition. The Joint Responders support the vast majority of the modifications offered by Staff and believe they add additional clarity. As such, the Joint Responder's Attachment A incorporates most of Staff's proposed changes, and those changes not accepted are noted below. As a result, this Response is primarily meant to address only those changes to which parties have

objected, and failure to address any specific argument here is not intended to waive argument contained in the Joint Initial Verified Comments of CUB, ELPC and IREC.

A. Adopting a Definition of "Minor System Modifications" Will Promote an Efficient Interconnection Process without Impairing Safety or Reliability (Part 466.20).

Attachment A includes a definition of "Minor System Modifications" in 83 Ill. Admin. Code § 466.20, which is added to effectuate changes that were made to the "no construction screen"[6] as explained further below in section J. This added definition is necessary to enable generators that have passed the Level 1-3 screens, but require some minor system upgrades to be interconnected, to proceed under expedited review rather than having to undergo the more rigorous Level 4 study process. This definition includes modifications between the service tap on the distribution circuit and the interconnection customer's meter, and also includes other system modifications that require less than four hours of work and $1,000 in materials.

In its comments, ComEd generally approved of the addition of a Minor System Modification definition but suggested removing the provision allowing "other system modifications that require less than four hours of work and $1,000 in materials." ComEd Ver. Init. Comments at 4. ComEd argues that this would result in all applications failing to qualify for upgrades without requiring a study. *Id.* This is a different reading of the proposed definition than what was intended. Rather, the intent is that *any* modifications between the service tap and the meter be considered minor. Changes on the utility's side of the service tap, however, will have to be below four hours of work and $1,000 in materials to qualify as minor.

The Commission should retain the proposed rule's definition, referencing four hours of work and $1000 in materials, and reject ComEd's changes. It is reasonable for extremely modest

[6] The "no-construction screen" refers to the technical screen in Levels 1, 2 and 3, which does not allow projects to receive expedited review if they would require construction of any facilities by the utility to accommodate the project.

upgrades on the utility's side of the service tap to also be accommodated using this approach, there is no reason to require a facilities study[7] for such insignificant work. Staff also proposed some clarifying edits to the definition of Minor System Modifications. Staff's Ver. Init. Comments, Attachment A, at 4. The Joint Responders find Staff's changes acceptable and as a result, propose that the Commission adopt the following definition: "'Minor System Modifications' means modifications to an EDC's [Electric Distribution Company's] Electric Distribution System located between the service tap on the distribution circuit and the meter serving the Interconnection Customer, or other minor system changes that the EDC estimates will entail less than four hours of work and $1000 in materials." 83 Ill. Admin. Code § 466.20.

B. A Waiver Provision Increases the Flexibility of the Rule Where Unforeseen or Unique Issues Arise (Part 466.30).

CUB, ELPC and IREC recommend inserting a wavier provision into Part 466 which is identical to the one that already exists in Part 467. 83 Ill. Admin. Code § 467.30. It appears that all parties are unopposed to this addition, which will allow the utilities, stakeholders, and the Commission to waive portions of the rule following a good showing of cause. Joint Initial Comments at 38; ComEd Ver. Init. Comments at 18; Staff Ver. Init. Comments at 5; Ameren Ver. Init. Comments at 2. As a result, the proposed waiver should be adopted as written in Attachment A to this Response.

C. Pre-Application Reports will Improve Transparency and Promote Efficient Siting of DG Projects (Part 466.50).

The proposed rule in Attachment A of this Response recommends adopting a Pre-Application Report option to provide potential applicants with system information to enable

[7] "The interconnection facilities study shall estimate the cost of the equipment, engineering, procurement and construction work, including overheads, needed to implement the conclusions of the interconnection feasibility study and the interconnection system impact study." 83 Ill. Admin. Code § 466.130(e)(3)(B).

them to choose appropriate project locations and to anticipate potential interconnection issues in advance. 83 Ill. Admin. Code § 466.50; Joint Initial Comments at 16-19. The utilities and Staff have indicated support—or, in the case of Ameren, not objected to—the addition of a Pre-Application Report option for interconnection applicants. ComEd Ver. Init. Comments at 3, Ameren Ver. Init. Comments at 2, Staff Ver. Init. Comments at 6. Staff has proposed changes for additional clarity, and the Joint Responders support including those revisions in the final rule and have included the changes in Attachment A. As a result, CUB, ELPC and IREC recommend that the Commission adopt Part 466.50 as written in Attachment A to this Response.

D. An External Disconnect Switch is Not Necessary for System Safety (Part 466.70(h)).

Safety is of paramount importance in utility operations and should be in interconnection procedures as well. Arguments regarding safety protections, however, still must be supported by appropriate technical justification. Illinois rules currently allow the utilities to require that inverter-based systems below 25 kW install a utility accessible external disconnect switch ("EDS"). 83 Ill. Admin. Code § 466.70(h) (current rule). An EDS allows utility employees to manually disconnect a customer owned generator from the electricity grid.[8] Since the Commission first reviewed the issue of the EDS requirement when it adopted the existing interconnection procedures,[9] there has been a body of evidence established to show that removing the EDS requirement for small, inverter-based systems does not undermine safety. The Joint Initial Comments reference two important and thorough technical reports which

[8] M. Coddington, R.M. Margolis, and J. Aabakken, NREL, *Utility-Interconnected Photovoltaic Systems: Evaluating the Rationale for the Utility-Accessible External Disconnect Switch*, Technical Report: NREL/TP-581-42675 (Jan. 2008), at iv, *available at* www.nrel.gov/docs/fy08osti/42675.pdf [NREL EDS Report]

[9] *See* Commission's Second Notice Order in docket 06-0525 at 13-21 (June 10, 2008); *see also* Commission's Final Order in docket 06-0525 at 1 (August 13, 2008) ("The Joint Committee also issued a recommendation at that time that the Commission consider amending its rulemaking to require external electric distribution companies to track their use of disconnect switches and to provide results to the Commission on a monthly basis. While the Commission declines to make such change at this time, the Commission will revisit this issue in any future proceeding amending Part 466.").

conclude that an EDS on small inverter based generators is not necessary and can be cost prohibitive to generators.[10] In their responses, the utilities oppose removing the EDS requirement but fail to provide any evidence or response to the technical arguments presented in the reports. ComEd Ver. Init. Comments at 15, Ameren Ver. Init. Comments at 3. Staff did not comment on the removal of the EDS requirement and does not include an EDS requirement in its submitted redline edits of the rule.

Ameren states that the proposal "works from the 'assumption' that no harm can come to individuals working on the distribution system…" Ameren Ver. Init. Comments at 3. This characterization is false. Rather, the proposal to remove this requirement is based on technical reports and other states' experience that demonstrates the EDS is not necessary to prevent harm to utility workers.[11] As evidenced by the various states that have removed the EDS requirement,[12] and contrary to the suggestions of Ameren, it is possible to comply with the Occupational Safety and Health Administration ("OSHA") regulations and the National Electric Code ("NEC") without installing unnecessary, costly, and duplicative equipment. Ameren Ver. Init. Comments at 3. As referenced in the Joint Initial Comments, the Solar America Board of Codes and Standards ("Solar ABCs") and NREL have each published reports that thoroughly provide the technical justification and reasoning that many states have relied upon to discontinue their EDS requirement.[13]

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[10] Michael T. Sheehan, P.E., IREC, *Utility External Disconnect Switch: Practical, Legal, and Technical Reasons to Eliminate the Requirement*, SolarABCs (Sept. 2008), *available at* www.solarabcs.org/about/publications/reports/ued/pdfs/ABCS-05_studyreport.pdf [Solar ABCs EDS Report]; and NREL EDS Report.

[11] *See Id.*

[12] At least eleven different states prohibit external disconnect switches for certain generators, including Maine, North Carolina and voluntary steps in California. *See* http://www.dsireusa.org/ (individual state policies on external disconnect switches can be found on the interconnection policy page for each state); *see also* Ind. Util. Regulatory Comm'n, Cause No. 44344, Vectren's Proposed Order and Brief in Support of Proposed Order 8 (July 18, 2014) (Indicating an Indiana utility's recent voluntary decision to dropping the EDS requirement).

[13] Solar ABCs EDS Report and NREL EDS Report.

Despite Ameren's reference to the NEC, it is critical to note that it is not the utility's responsibility to enforce the NEC and that not all local jurisdictions require an EDS. The NEC is a standard for the safe installation of electrical wiring and equipment, applying to a customer's premises behind the utility meter and is not under the control of the electric utility. In other words, the EDS advocated by Ameren and ComEd is not the same thing as the disconnect capabilities specified in the NEC.[14] In a North Carolina Utilities Commission (NCUC) decision the Commission stated,

> The NEC does indeed require that the customer's PV facility have several means of disconnection. But the Commission further agrees with those parties who argued that the means of disconnection required by the NEC is not the same as an EDS that is accessible to utility personnel. The Commission agrees with those parties who asserted that local electrical inspectors are responsible for enforcing the NEC, regardless of the Commission's Orders in this proceeding.[15]

If the Commission is concerned about the NEC requirements, the Commission can consider adopting language clarifying that the developer must still comply with any local jurisdiction's requirements related to the switch. The North Carolina Commission took this approach.[16]

In its comments, Ameren also stated that the Joint Responders mischaracterized the cost to install a disconnect switch as 'substantial.' Ameren Ver. Init. Comments at 4. While the cost of an EDS may be less significant for larger facilities, for smaller facilities it can be an added cost that shifts the economics of a project. Moreover, it is unacceptable for the utilities to impose costs on generators, be them $5 or $500, without sufficient evidence of their necessity.

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[14] NC Utils. Comm'n, Docket No. E-100, Sub 101, Order Granting Motion for Reconsideration and Amending Generator Interconnection Standard 6 (Dec. 16, 2008) (herein after "NCUC UEDS decision").
[15] *Id.*
[16] *See* North Carolina Interconnection Procedures, Forms, and Agreements, Attachment 1, Glossary of Terms ("When the installation of the switch *is not otherwise required (e.g. National Electric Code, state or local building code)* and is deemed necessary by the Utility for certified, inverter-based generators no larger than 10 kW, the Utility shall reimburse the Interconnection Customer for the reasonable cost of installing a switch that meets the Utility's specifications…" (emphasis added)). Available at: http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=ad6d162b-809e-4d1f-947c-13b1d0a091f6

The Commission should adopt the proposal to eliminate the EDS requirement for systems smaller than 25 kilowatts ("kW"). 83 Ill. Admin. Code § 466.70(h); Joint Initial Comments at 35. The safety of utility line workers is essential, but the record in this case demonstrates that requiring an EDS for inverter-based systems below 25 kW is not necessary to ensure safety and thus should be removed or the cost should be assumed by the utility.

While the Joint Responders maintain that an EDS should not be required, if the Commission wishes to continue to allow the utilities to require an EDS, then it should also require the utilities to pay the extra cost associated with the EDS for systems smaller than 25 kW. In this way, they the utilities would internalize the costs associated with an EDS, which should encourage them not to require one when it is not warranted. It would also remove any unjust financial burden placed on small generators seeking interconnection. Florida and North Carolina follow this approach for systems qualifying for Level 1 review under their procedures.[17] In this case the Joint Responders propose the following alternative language for Part 466.70:

> h) EDCs may require that distributed generation facilities have the capability to be isolated from the EDC. For distributed generation facilities interconnecting to a primary line, the isolation shall be by means of a lockable, visible-break isolation device accessible by the EDC. For distributed generation facilities interconnecting to a secondary line, the isolation shall be by means of a lockable isolation device whose status is indicated and is accessible by the EDC. The isolation device shall be installed, owned and maintained by the owner of the distributed generation facility and located electrically between the distributed generation facility and the point of interconnection, <u>except that for an</u> inverter-based <u>distributed generation facility with a nameplate capacity of 25 kW or less, the EDC shall pay for any isolation device required by the EDC.</u> A draw-out type of circuit breaker accessible to the EDC with a provision for padlocking at the drawn-out position satisfies the requirement for an isolation device.
>
> i) The interconnection customer shall allow the EDC to isolate the distributed generation facility. <u>For an</u> inverter-based <u>distributed</u>

[17] FAC 25-6.065 § (6)(a); NCUC UEDS decision.

> generation facility with a nameplate capacity of 25 kW or less, the EDC shall pay for any isolation device required by the EDC. An interconnection customer may elect to provide the EDC with access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise accessible to the EDC by installing a lockbox provided by the EDC that allows ready access to the isolation device. The lockbox shall be in a location determined by the EDC to be accessible by the EDC. The interconnection customer shall permit the EDC to affix a placard in a location of its choosing that provides instructions to EDC operating personnel for accessing the isolation device. If the EDC needs to isolate the distribution generation facility, the EDC shall not be held liable for any damages resulting from the actions necessary to isolate the generation facility.

E. Limiting the Utility's Ability to Impose Requirements Beyond those Authorized by Rule is Reasonable and Comports with the Purpose of the Interconnection Standards (Part 466.70(i)).

The Joint Responders propose the Commission limit the ability of utilities to impose additional tests or equipment requirements on interconnection customers beyond those already contemplated by Part 466. Attachment A, 83 Ill. Admin. Code § 466.70(i). The proposed revisions make clear utilities are not given *carte blanche* to require any equipment or tests they may desire through the interconnection process. Rather, the utility should have to justify any requirements imposed via the technical standards and process outlined in this rule. The reason for having standardized interconnection procedures is to provide transparent and non-discriminatory access to the electrical system while also protecting system safety and reliability. To the extent the utilities wish to require additional measures beyond those currently allowed by the rules they should seek Commission approval for such changes.

Ameren cites to a number of requirements that it believes it may want to extend to generators seeking interconnection, such as additional inverter-functionality and even requiring on-site energy storage, without having to seek changes to Part 466. Ameren Ver. Init. Comments

at 4-5. The Joint Responders do not dispute that there may at some point be a need to gather real-time data from inverters, and even for the utility to exercise direct control; nor do the Joint Responders disagree that storage may be helpful in some cases. Indeed there may be a need consider these issues in an appropriate forum. However, these are exactly the types of requirements that could impose significant costs on a generator and also be applied inconsistently. These requirements are not authorized by the current rule, and the Commission should be presented with a proposal to evaluate the validity of such additional requirements rather than allowing the utility to make these decisions on an *ad hoc* basis. While it is relevant to note that both California and Hawaii are considering those exact same inverter-functionality and storage questions in proceedings before their state Commissions, they are not simply allowing the utilities to require them on an *ad hoc* basis as Ameren is requesting.[18]

Ameren's argument against this section actually makes a strong case as to why the additional provision is necessary and appropriate – it makes it clear that the utilities should not be able to impose costly requirements or limits without allowing the Commission to evaluate them first. As a result, section 83 Ill. Admin. Code § 466.70(i) should be adopted as written in Attachment A to this Response.

[18] *See* Cal. Pub. Util. Comm'n, Administrative Law Judge's Ruling Setting Schedule for Comments on Staff Reports and Scheduling Prehearing Conference, Docket R.11-09-011 (July 29, 2014) (soliciting comments on storage interconnection issues and proposals); Cal. Pub. Util. Comm'n, Assigned Commissioner's Amended Scoping Memo and Ruling Requiring Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company to File Proposed Revised Electric Tariff Rule 21, Docket R.11-09-011 (May 13, 2014) (requiring utilities to incorporate smart inverter working group recommendations into interconnection tariffs); Haw. Pub. Util. Comm'n, Order 32053 Ruling on RSWG Work Product, Docket No. 2011-0206 (Apr. 28, 2014) (requiring utilities to develop Distributed Generation Interconnection plans containing Advanced DER Technology Utilization Plans addressing use of, among other things, energy storage and smart inverters); Haw. Pub. Util. Comm'n, Decision and Order 32052, Docket No. 2012-0036, Exhibit A: Commission's Inclinations on the Future of Hawaii's Electric Utilities (Apr. 28, 2014) (discussing increasing importance of smart inverter and storage technology to utility planning).

F. Enabling Electronic Application Submittal and Ready Electronic Access to Interconnection Information will Facilitate an Efficient Interconnection Process (Part 466.70 (m)-(o)).

The proposed revisions include language that would enable customers to submit interconnection applications electronically and would require information about the interconnection process to be posted on the utilities' websites. 83 Ill. Admin. Code § 466.70 (m)-(o). Staff propose minor clarifying changes to this provision in its submitted redline edits of the rule at 83 Ill. Admin. Code § 466.70 (m)-(o), and ComEd proposes to allow applications to be submitted through an external website, ComEd Ver. Init. Comments at 17. Joint Responders support these revisions and believe that together these changes will help improve the efficiency of the interconnection process. As a result, the Joint Responders recommend the Commission adopt the language proposed in Attachment A.

G. Changing Certain Size Limits from Kilovolt-ampere (kVA) to Kilowatt (kW) Will Improve the Clarity and Consistency of the Interconnection Standards (Throughout Part 466, starting at 466.90(a)(2))

The Joint Responders recommend changing some of the size limitations from kVA to kW in order to improve consistency with interconnection procedures in other states and clarity for interconnection applicants. In its comments, ComEd notes that one redline modification in Proposed 83 Ill. Admin. Code § 466.90(c)(2)(b) appears to be inconsistent with workshop discussions. ComEd Ver. Init. Comments at 18. The Joint Responders have no objection to changing the 466.90(c)(2)(b) language from kW back to kVA as proposed by ComEd. Otherwise, parties do not oppose the changes proposed in the rule, and the Commission should adopt them as they appear in Attachment A.

H. Raising the Level 1 Size Limit to 25 kW will Increase Access to Expedited Review for Low-Impact Systems (Part 466.90(a)(1)).

The proposed revisions raise the size limit of the Level 1 process from 10 kW to 25 kW to allow greater access to expedited review for low-impact generators seeking interconnection. 83 Ill. Admin. Code § 466.90(a)(1); Joint Initial Comments at 23. No party indicated an objection to increasing the Level 1 size limit from 10 kW to 25 kW. This change will increase access to expedited review for low-impact systems without posing safety or reliability concerns and thus should be adopted. The Joint Responders therefore recommend the Commission adopt the proposed revisions as they appear in Attachment A.

I. Using a More Technically Justified Level 2 Size Limit will Enable More Efficient Administration of the Interconnection Process (Part 466.90(b)).

The Joint Responders recommend Illinois adopt a new approach for Level 2 size eligibility that would lower the size limit for systems located on low voltage lines while raising the size limit for systems on higher voltage lines. 83 Ill. Admin. Code § 466.90(b); Joint Initial Comments at 24-27. This proposal is based upon the changes adopted by FERC with some modifications to incorporate workshop discussions. Neither Staff nor the utilities oppose moving to a table of eligibility standards that applies different size limits based upon the voltage of the line to which a system will interconnect. ComEd, however, does ask that the threshold for the > 5 kV and > 15kV category for inverter-based projects should be set at 2 megawatt ("MW"), rather than the 3 MW limit in the proposed rule. ComEd Ver. Init. Comments at 11.

As explained in the Joint Initial Comments, the current 2 MW limit for Level 2 (or "Fast Track") was adopted as a rough measure to filter out projects that would be highly unlikely to pass the Level 2 screens, thereby more efficiently directing such projects toward a more rigorous

study process. Joint Initial Comments at 24-27. The 2 MW eligibility limit was designed to improve administrative efficiency, but the size limit was not based upon the largest sized system that could pass the Level 2 screens on all sized lines. The changes recently made by FERC thus endeavored to make the size limit more accurate in filtering out projects unlikely to pass the Fast Track screens, while also recognizing that the screens are the best place to address the unique circumstances of every circuit. FERC Order 792 at ¶102-110.

During the process of evaluating the proposed changes to the FERC SGIP, a stakeholder working group consisting of the Edison Electric Institute ("EEI"), the National Rural Electric Cooperative Association ("NRECA"), and the American Public Power Association ("APPA") and NREL, amongst others, collectively agreed upon the technical limits identified in the table adopted by FERC, including a limit that allowed systems of up to 3 MW to interconnect to lines in the >5 kV to <15 kV range. FERC Order 792 at ¶ 13-14, 93-94, 96-99 and 102-103. The size limits for different levels adopted by FERC were deemed acceptable by a wide range of the nation's utilities. In addition, it is important to recognize that if an individual project is too large, the Level 2 technical screens will prevent the project from interconnecting without going through the Level 4 studies.[19]

Based upon discussions regarding this issue during the workshops CUB, ELPC and IREC removed the distance from substation column that appears in FERC's rule in favor of the higher limits in order to retain simplicity. This approach is sufficiently conservative, but the Joint Responders would also support adoption of the limits proposed in the FERC Small Generator Interconnection Procedures (SGIP), which used a three-columned table approach, adopting a 3 MW limit for systems located closer to the substation on a mainline, and using 2 MW for

[19] *See, e.g.* FERC Order 792 at ¶ 109 ("The Commission acknowledges NYISO & NYTO's comment that certain facilities in New York may require a detailed study to ensure safety and reliability. However, the Fast Track Process itself will identify such facilities so they need not be eliminated from Fast Track eligibility.).

systems located farther from the substation. FERC Order 792 at ¶ 103. This table is included below for the Commission's reference.

Fast Track Eligibility for Inverter-Based Systems		
Line Voltage	Fast Track Eligibility Regardless of Location	Fast Track Eligibility on a Mainline and < 2.5 Electrical Circuit Miles from Substation
< 5 kV	≤ 500 kW	≤ 500 kW
> 5 kV and < 15 kV	< 2 MW	< 3 MW
> 15 kV and < 30 kV	< 3 MW	< 4 MW
> 30 kV and < 69 kV	< 4 MW	< 5 MW

ComEd argues that the 3 MW limit on power lines between 5 and 15 kV would exceed the feeder rating that ComEd usually applies. ComEd Ver. Init. Comments at 10. ComEd's argument, however, does not explain which of the technical screens would necessarily be violated, in most or all cases, for systems between 2 and 3 MW. While it may be less likely that systems above 2 MW will pass the screens, there are likely some circuits where a system above 3 MW, particularly if located near the substation, could pass the technical screens. The FERC rules reflect this and were evaluated closely and deemed acceptable by many of the nation's utilities and Sandia National Laboratories. FERC Order 792 at ¶¶ 86, 83, and 102-103. It is appropriate to allow generators up to 3 MW the opportunity to utilize the significantly faster and more cost efficient Level 2 process in such a case. ComEd does not argue that there is a risk that the technical screens will not identify those projects requiring a more rigorous impact study. Thus, there are no safety and reliability consequences from using the higher limit proposed in the Joint Responder's Attachment A.

Staff recommends some reorganization of the language in 83 Ill. Admin. Code § 466.90(b). Staff Ver. Init. Comments, Attachment A. The Joint Responders find these changes acceptable with one minor change: the final sentence in this Part should thus read "pursuant to the ~~following~~ table above." The Joint Responders recommend the Commission adopt the revisions proposed in Attachment A to this Response, which reflect Staff's recommendations.

J. Removal of the No-Construction Screens will Improve the Efficiency of the Review Process without Undermining Safety or Reliability (Part 466.90 (a)(5), (b)(5), (c)(1)(F), (c)(2)(F) and 466.100(a)(5)).

The Joint Responders recommend that the Illinois rules be revised by removing what are commonly referred to as the "no construction screens." These screens prevent applicants that require the construction of *any* upgrades from proceeding through expedited review (under Levels 1 to 3), even if such upgrades are minor and/or pose no technical concerns requiring a more rigorous Level 4 system impact study. The Joint Responders recommend allowing systems requiring upgrades to proceed with the use of a good-faith cost estimate or facilities study[20], depending upon the magnitude of the upgrades that are required.

While ComEd and Ameren indicate some support for this approach, they propose limiting its application for projects requiring more than Minor System Modifications, and ComEd would also like to extend the time it is given to prepare good-faith cost estimates. ComEd Ver. Init. Comments at 4-9; Ameren Ver. Init. Comments at 5-6. Some modifications to the proposal have been made to accommodate their concerns, and to address Staff's questions about clarity, as explained below. Staff's Ver. Init. Comments at 6-7. The rule proposed in

[20] A Facilities Study is the third study in the Level 4 review process that is used to determine the costs of necessary upgrades after the system impacts have been evaluated. See 83 Ill. Admin. Code § 466.130(e)(3)(b).

Attachment A allows the utilities sufficient time to identify and apportion any costs associated with upgrades while also maintaining an efficient and clear process across all levels of review.

1. *Elimination of the No-Construction Screen*

The "no-construction screen" refers to the technical screen in Levels 1, 2 and 3, which does not allow projects to receive expedited review if they would require construction of any facilities by the utility to accommodate the project. 83 Ill. Admin. Code §§ 466.90 (a)(5), (b)(5), (c)(1)(F), (c)(2)(F) and 466.100(a)(5); Joint Initial Comments at 19-22. This screen could require a project that otherwise passes all other technical screens to undergo a costly Level 4 study process, even if there are no system impact concerns warranting further review. Joint Initial Comments at 19-22. The proposed approach in Attachment A would still require applicants to pay for the cost of any upgrades in all cases, but it uses an alternate method to assess the cost of the upgrades.

Ameren and ComEd favor eliminating the "no construction" screen for Level 1 Facilities and retaining it for facilities applying under Levels 2 or 3, provided the screen contains the appropriate Minor System Modification exception. Ameren Ver. Init. Comments at 5-6; ComEd Ver. Init. Comments at 5. Neither Staff nor the utilities have argued that these systems require full Level 4 review, which is rigorous and in most cases involves three studies: a feasibility study, a system impacts study, and a facilities study. Even if some of those studies can be voluntarily waived by mutual agreement of the utility and the applicant, the time required for moving over to Level 4 and the associated costs are unwarranted.

In response to party comments, the Joint Responders now propose some changes outlined in Attachment A to ensure that this process is transparent and workable. First, the same approach to determining upgrade costs should be used for Level 1 to 3 for simplicity's sake and

the proposed approach is tiered based on the size of the upgrade, rather than the level of review the project is undergoing. Second, the proposal removes all the no-construction screen language, both from the introductory sections in 83 Ill. Admin. Code § 466.90 and from the actual screens in 466.100 (Level 1) and 466.200 (Level 2). This also effectively removes it from Level 3, which refers back to the Level 2 screen. Finally, under any of the three levels of review, including supplemental review, if an applicant passes the technical screens the following three options would apply:

1. Projects requiring no upgrades will receive an Interconnection Agreement in five days.
2. Projects requiring Minor System Modifications will be given a good faith cost estimate within 15 days.
3. For projects requiring more than minor upgrades, the utility will conduct a facilities study using the existing procedures. 83 Ill. Admin. Code § 466.100(b)(5), 466.110(c), and 466.120(b).

While Level 2 and 3 projects may require more significant upgrades, the utility is fully capable of processing those applications without requiring a time-consuming, full study process. The feasibility study and system impact study are not needed, it is only the facilities study that is helpful in determining the costs of upgrades. While it is important to streamline the process for those projects only requiring minor modifications, there is also no compelling reason to require a more rigorous full Level 4 review for projects requiring more significant upgrades. Such upgrades can be addressed through a facilities study, as needed, pursuant to Illinois' existing rule and this is what the proposed rule would allow.

The Joint Responders have also incorporated Staff's minor changes into the attached revised redline for these sections except where they conflict with the proposal outlined above.

Staff's Ver. Init. Comments, Attachment A. The Joint Responders recommend the Commission adopt the proposed language contained in Attachment A to this Response. The proposed rule allows the utilities sufficient time to identify and apportion any costs associated with upgrades while also maintaining an efficient and clear process across all levels of review.

2. *Utility Response Time for Minor System Modification*

In its comments, ComEd opposes the 15-day window to develop a good faith cost estimate for Minor System Modifications, proposing 30 business days instead. ComEd Ver. Init. Comments at 6. Ameren did not object to the 15-day timeframe for developing a cost estimate. ComEd's objections to the response timeframe are unfounded.

The utility should be capable of developing a good faith estimate within 15 days, even if it requires some internal changes to adapt to a new process. ComEd provides no compelling reason why the company cannot provide a good faith cost estimate within 15 days, which is the same amount of time required to complete an entire facilities study in circumstances where only interconnection facilities are required—a far more rigorous process.[21] Indeed, ComEd does not acknowledge that the current rule requires that the facilities study be completed in a shorter timeframe, nor has ComEd argued it has trouble meeting the current 15 day timeline for facilities studies involving only interconnection facilities. For projects requiring more than Minor System Modifications, ComEd will be allowed to complete a full facilities study, and recover its costs for preparing that study, under the same timeframe as is afforded under the current rule. The

[21] The timeline for completion of a facilities study is outlined in the Facilities Study Agreement at Appendix G to Part 466. In section 6 it provides "In cases where no distribution upgrades are required, the interconnection facilities study shall be completed and the results shall be transmitted to interconnection customer within 15 business days after this Agreement is signed by the Parties. In cases where distribution upgrades are required, the interconnection facilities study shall be completed and the results shall be transmitted to interconnection customer within 30 business days after this Agreement is signed by the Parties."

Commission should reject ComEd's arguments and adopt the proposed revisions as shown in Attachment A to this Response.

K. Applicants Should Retain their Queue Position Throughout the Interconnection Process (Part 466.90(b)(7)).

All parties appear unopposed to allowing projects that fail Level 1 review to retain their queue position so long as they apply within 15 days of notification that the interconnection request has been denied. As a result, the Commission should adopt the Joint Responders' proposed revisions as shown in Attachment A to this Response.

L. An Effective and Transparent Supplemental Review Process is a Critical Step to Managing Increased DG Penetration and Application Volumes (Part 466.110(f)).

The Joint Responders have proposed updating the Illinois rules to contain a more transparent, objective and consistent supplemental review process for Level 2 generators that fail one or more of the initial screens, including the 15% penetration screen.[22] 83 Ill. Admin. Code § 466.110(f); Joint Initial Comments at 27-28. Rather than proceeding to a full study process, Level 2 applicants that fail one or more of the technical screens can elect to proceed to a supplemental review that applies Minimum Load, Voltage and Power Quality, and Safety and Reliability Screens to determine whether the project has the potential to create any adverse impacts on the distribution grid. The addition of this more transparent supplemental review process is designed to strike a balance between handling an increased volume of interconnection

[22] When processes for evaluating whether small generator interconnections required study were first being developed, one of the screens that was adopted widely asks whether the total generation on the circuit or line section, with the addition of the proposed generator, would exceed 15% of peak load on the circuit. The intent of this screen was to determine whether there was a risk that generation would exceed load on the circuit at any point, and thereby possibly result in backfeeding electricity onto the distribution system. ELPC/CUB/IREC Joint Initial Verified Comments at 27.

requests received by utilities and maintaining the safety and reliability of the electric system. Joint Initial Comments at 27-28; FERC Order 792 at ¶¶117, 141.

In their comments, ComEd and Ameren argue that this supplemental review proposal is not sufficiently protective of the distribution system and should not be adopted. ComEd Ver. Init. Comments at 12-15; Ameren Ver. Init. Comments at 6. This assertion is incorrect. The utilities fail to provide sufficient technical justification to demonstrate that the approach adopted by FERC, Ohio, California, Massachusetts and Hawaii and supported by analysis from the national labs is not appropriate and beneficial.

The early experience with these more transparent supplemental review processes has shown positive results. In California, for example, available interconnection queue data has shown that, while many projects failed the 15% of peak load initial review screen due to high circuit penetration, Pacific Gas and Electric Company ("PG&E") was able to bypass the lengthy study process in 44% of cases by relying on the supplemental review process. Joint Initial Comments at 29.

Ameren concludes that the ultimate effect of the proposed supplemental review process is that virtually every interconnection application would be approved for installation regardless of its likely impact on the distribution system. Ameren Ver. Init. Comments at 7. While these screens will indeed allow a greater number of systems to interconnect without proceeding through a lengthy study process, experience from other states proves that the supplemental review screens serve their function of identifying which projects require further, more rigorous study and by no means result in approval of every application. As the statistics from California queues cited above demonstrate, in the cases of both PG&E and Southern California Edison, less than half of projects failing an initial screen were approved through a supplemental review

process. Joint Initial Comments at 29. The proposed revisions of CUB, ELPC and IREC reflect these realities.

1. *The 100% of Minimum Load Screen is an Established Standard and is Sufficiently Protective When Applied with the other Supplemental Review Screens.*

ComEd and Ameren make a couple of specific objections to the use of a 100% of minimum load penetration screen. Ameren Ver. Init. Comments at 6; ComEd Ver. Init. Comments12-13. There is ample technical evidence to support use of a 100% of minimum load screen, based on the experience of leading states and FERC's careful consideration and adoption of the screen. FERC Order 792 at ¶¶ 118-148. The Joint Responders have cited several technical studies from national labs demonstrate that a 100% minimum load screen is safe and appropriate for use. Joint Initial Comments at 32. The utilities' comments, on the other hand, do not provide credible citations to any research suggesting otherwise.

The application of the 100% of minimum load screen, when applied *in conjunction* with the safety, reliability and power quality screens, is sufficiently protective. In evaluating the proposed supplemental review process, it is important not to view the minimum load screen in a vacuum. This screen does not unduly restrict a utility's options for maintaining system safety and reliability. There are three main system risks that are often raised in the context of higher penetrations of DG: unintentional islanding, voltage control, and protection coordination.[23] The

[23] *See* K. Burman, J.Keller, and B. Kroposki (National Renewable Energy Laboratory); P. Lilienthal, R. Slaughter, and J. Glassmire (Homer Energy, LLC), *Renewable Power Options for Electrical Generation on Kaua'i: Economics and Performance*, NREL/TP-7A40-52076, p. 34 (November 2011), *available at* www1.eere.energy.gov/office_eere/pdfs/52076.pdf*;* J. Bank, B. Mather, J. Keller, M. Coddington, National Renewable Energy Laboratory, *High Penetration Photovoltaic Case Study Report*, January 2013. http://www.nrel.gov/docs/fy13osti/54742.pdf; *see also* these studies at https://solarhighpen.energy.gov/resources/?type%5B%5D=73.

two additional proposed supplemental review screens are capable of identifying when further study is required to mitigate these impacts.

ComEd states that the use of 100% of minimum load as the basic standard for evaluation for supplemental review does not ensure adequate protection against the possibility of islanding. ComEd Ver. Init. Comments at 12. While it is true that unintentional islanding must be avoided, the use of the 100% of minimum load screen ensures adequate protection against unintentional islanding. ComEd references the Sandia Labs report, SAND2012-1365, *Suggested Guidelines for Anti-Islanding Screening* to suggest that there is not enough evidence of the safety of using 100% of minimum load. *Id.* at 14. This reliance is misplaced and misunderstands the intent of the Sandia report. As Sandia's comments in the FERC proceeding explicitly state, the intent of those guidelines *was not to indicate that the 100% of minimum load screen is not sufficiently protective*.[24] In addressing Massachusetts' proposal to employ a 67% minimum load screen, based on the Sandia report, Sandia states that using such a screen by itself is overly conservative and not technically justified. Sandia concludes, "Therefore, for DG with anti-islanding capability, a screening threshold of 100% of minimum load is sufficiently conservative based on practical experience from the point of view of unintentional islanding."[25] In light of this, the Massachusetts' Commission recently issued a decision[26] which moves their supplemental review

[24] Comments of Sandia National Laboratories under FERC RM13-2, filed June 3, 2013. In a revised version of the report, issued in March of 2013 and re-titled *Suggested Guidelines for Assessment of DG Unintentional Islanding Risk* the authors added a paragraph to address this exact misunderstanding (emphasis altered): "The guidelines provided in this document are technically involved and data intensive. <u>As such, the technical guidelines contained in this document are designed for a purpose that is different from the screening criteria used in the FERC small generator interconnection procedures (SGIP) initial review process.</u> However, the guidelines could be applied at a stage of the interconnection process where detailed studies are being conducted, to help determine whether or not antiislanding study is needed. The procedure described here leads to reasonable conclusions about the risk of unintentional islanding only if it is applied in its entirety." M. Ropp and A. Ellis, *Suggested Guidelines for Assessment of DG Unintentional Islanding Risk*, Sandia National Laboratories, at p. 5 (Mar. 2013) available at: http://energy.sandia.gov/wp/wp-content/gallery/uploads/SAND2012-1365-v2.pdf

[25] *Id.* at 5.

[26] Massachusetts, DPU Order 11-75-E, Jul. 31, 2014, at 12-14.

screen from 67% to 100% of minimum load after a Technical Standards Working Group, including all of the state's investor owned utilities, unanimously determined that 100% was an acceptable limit when applied in conjunction with the other two screens.[27]

ComEd also notes that minimum load may not be readily available in all cases. ComEd Ver. Init. Comments at 13. It is true that minimum load is not always available, however, adoption of system monitoring equipment and smart grid technologies are making minimum load data much more accessible than when the 15% screen was initially devised.[28] Joint Initial Comments at 30. In addition, it is possible to calculate minimum load where a full year of data does not exist: as NREL explains, "minimum load can be estimated based on standard load profiles for various customer classes that many utilities maintain and update on an annual basis."[29] NREL has been hosting regular meetings of the Distributed Generation Interconnection Collaborative to help inform utilities who are learning to apply these new standards. They prepared a specific session on how to calculate minimum load that may be helpful for the Illinois utilities to review if they need assistance in determining how to calculate minimum load where data does not exist.[30]

The Joint Responders' proposed revisions address the course of action utilities should take when minimum load data is not available and cannot otherwise be determined. In that case,

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[27] D.P.U. 11-75-E, Distributed Generation Interconnection Penetration Test Report, Feb. 26, 2014, at 2 ("With this report, Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, NSTAR Electric Company, Fitchburg Gas & Electric Light Company, d/b/a Unitil, and Western Massachusetts Electric Company have agreed to accept increasing the supplemental review minimum load screen from 67% to 100% as long as the voltage/power quality and safety/reliability screens are defined by and conducted at each utility's discretion.").

[28] FERC Order 792 ¶144 ("The adopted reform gives the Transmission Provider the flexibility to calculate, estimate or determine minimum load if data are not available. Further, the language allows the Transmission Provider not to perform the Minimum Load Screen if data are unavailable or if it is unable to calculate, estimate or determine minimum load.).

[29] NREL Technical Report 5500-54063, *Updating Interconnection Screens for PV System Integration* (Feb. 2012), at 7, (available at http://www.nrel.gov/docs/fy12osti/54063.pdf)

[30] *See* NREL, Distributed Generation Interconnection Collaborative, Minimum Daytime Load Calculation and Screening, available at: http://www.nrel.gov/tech_deployment/dgic.html.

the generator will fail the screen as long as the utility explains "that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification." 83 Ill. Admin. Code § 466.110(f)(4)(A).

In its comments, Ameren states that 83 Ill. Admin. Code § 466.110(f)(4)(A)(iii) prevents the utility from considering any existing generation on the affected portion of the circuit when determining whether the proposed 100% generation-to-load threshold has been exceeded. Ameren Ver. Init. Comments at 6. This is not what the proposed revision requires. The utility is not "prevented" from considering *any* existing generation on the circuit, rather this provision is included to avoid a double counting of generation that has already been reflected in the minimum load estimate (i.e., in cases where the on-site generation has reduced the total demand on the circuit). This or similar language exists in the supplemental review processes adopted by all the states listed above and in FERC's SGIP. *See* FERC Order 792 at ¶147. As a result, the Joint Responders recommend that the Commission adopt the revisions proposed in Attachment A to this Response.

2. *The Safety and Reliability Screen Enables Ample Utility Discretion While Also Providing Useful Guidance to Applicants.*

Ameren states that the reference to the distance from the substation in the proposed Safety and Reliability Screen, at 83 Ill. Admin. Code § 466.119(f)(4)(C)(iii), has little or no applicability in an environment when distribution circuits are designed to routinely be fed from multiple substations to provide enhanced reliability. Ameren Ver. Init. Comments at 7. The language proposed by CUB, ELPC and IREC is appropriate for the Commission to adopt here. A system's distance from the substation is often cited as a key technical criteria, such as discussed here by NREL in its report on interconnection screens for PV integration:

> The voltage effect depends on the feeder characteristics (voltage rating, conductor size, conductor material, overhead or underground) and location of PV along the feeder. Because feeders are often designed to be higher ampacity (thus lower impedance), thus "stiffer", near the substation, and because the substation will often contain voltage control equipment, the impact from PV on steady-state voltage is generally lessened as the distance to the substation is decreased. Conversely, as PV systems are located longer distances from the substation, the stiffness often decreases and the potential for high voltages becomes greater (especially during periods of light load such as weekend days).[31]

The factors listed in the proposed screen are only to be given "due consideration" and the screen also allows the utility to consider "other factors", as needed, to determine "potential impacts to safety and reliability in applying this screen." Appendix A, 83 Ill. Admin. Code § 466.119(f)(4)(C)(iii). The screen provides the utility with ample opportunity to identify actual technical concerns requiring study, it does not require that the utility consider distance from the substation in every case.

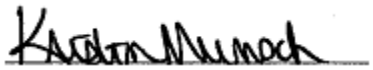
Staff has proposed removing all of the listed factors in the Safety and Reliability Screen. Staff Ver. Init. Comments at 7. The Commission should reject this proposal. The purpose of this list is to improve the clarity of the process for the generators and to demonstrate that there are a number of legitimate factors that the utility may consider in evaluating the safety and reliability of the proposed interconnection. These are not the only factors that can be considered as the proposal states that "due consideration" shall be given to those "and other factors" in determining impacts to safety and reliability. Neither Staff nor the utilities have demonstrated a valid reason why those factors are not relevant for consideration. As a result, the Joint Responders recommend the Commission adopt the proposed revisions shown in Attachment A to this Response.

[31] NREL Technical Report 5500-54063, *Updating Interconnection Screens for PV System Integration* (Feb. 2012), at 4, (available at http://www.nrel.gov/docs/fy12osti/54063.pdf) (This report, at page 13-14 also states: "For example, from previous high-penetration PV integration case study data, it is known that a PV system's nameplate capacity, circuit impedance, and distance from the distribution substation are key indicators of the expected voltage impacts of the PV system interconnection.").

Conclusion

For the reasons discussed herein and in the Joint Initial Verified Comments, the Commission should adopt the proposed revisions to Parts 466 and 467 of the Illinois Administrative Code as shown in Attachment A to this Response.

Dated: September 29, 2014 Respectfully submitted,



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